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ABSTRACT

Classroom behavior of student teachers who had training in discussion techniques and in interaction analysis was observed and compared to the behavior of their cooperating teachers. A significant difference in types of communication patterns in the classroom of student teachers who had this special training and those who had not was observed. It was further observed that these student teachers were not inclined to model their behavior on that of the cooperating teacher. (JD)

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TITLE OF PAPER: Interaction Within the Classroom During the Student Teaching Experience

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INTERACTION WITHIN THE CLASSROOM DURING THE STUDENT TEACHING EXPERIENCE

Introduction

Educators are generally consistent in their agreement of the importance of the student-teaching experience. That experience, like the internship in many other professions, is indispensable for the professional education of the teacher. It is surprising then to note the scarcity of research dedicated to teaching behavior and more specifically to verbal interaction of student teachers. Research reported here was conducted to study classroom interaction which occurs in classes conducted by student-teachers. Specifically, the study tested two basic hypotheses: one, there is a significant change in the type of interaction analysis, or communication pattern, occurring in classes conducted by student teachers from the beginning to the end of the student teaching experience. Secondly, there is a positive correlation between the type of interaction in a class conducted by cooperating teachers and by their student teachers at the conclusion of the student teaching experience.

Procedure

Participants in the study were the total group of secondary student teachers majoring in home economics at Stephen F. Austin State University in the spring semester, 1978 (N=19) and students in one seminar section of elementary education for student teachers (N=20) at the same university during the same semester.

Prior to entering the student teaching experience, student teachers received traditional training in philosophy and methods of teaching with the only exception being that they had additional study in discussion techniques and in interaction analysis.

During the student teaching experience student teachers were observed while teaching a regularly assigned class, by their university supervising teacher. An observation scale patterned after Flanders' Model of Interaction Analysis (Flander, 1970) was used. The Flanders' categories used were:

accepts feelings	directs
encourages or praises	criticizes
accepts ideas	student response
questions	student talk
lectures	silence

During the observation period, a recording of one category was made every three seconds. Observations were made at the beginning and ending of the student teaching experience. In addition, an observation was made of the cooperating teacher as s/he taught a regular class. At the conclusion of each observation period, tally sheets were utilized to determine what percent of class time was spent in each type of communication.

Data were treated through the use of t-tests and Pearson's correlations as well as with descriptive statistical techniques.

Findings

The first hypothesis, i.e., that there is a significant change in the type of interaction analysis or communication pattern occurring in a student-teacher's classroom from the beginning to the end of the student teaching experience, was not supported by the data. As shown in Table 1, there was a slight increase in the amount of class time spent in accepting feelings of students and in encouraging students; however, the degree of change was not

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Insert TABLE 1 about here

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high enough to show significance. Corresponding with that increase was an increase in amount of time student teachers spent in questioning students. Additionally, there was a tendency for student teachers to decrease lecture, decrease giving directions, and decrease criticizing students as the student teaching experience progressed; however, the change was not significant.

Insert TABLE 2 about here

As shown in Table 2, when the student teachers' and their cooperating teachers' patterns of interaction analysis or communication were compared, significant differences were found. Mean scores on four types of communication varied significantly for the total group of student teachers and their cooperating teachers. Student teachers encouraged or praised students significantly more than did cooperating teachers. In addition, the student teachers spent significantly more time in questioning students than did cooperating teachers. Conversely, cooperating teachers lectured significantly more than did student teachers. The level of criticism of students was significantly higher for cooperating teachers than for student teachers.

When home economics student teachers were studied separately from the total group, there were also significant differences found. For the communication pattern labelled "accepts student ideas," the mean for cooperating teachers was 2.86, while the mean for student teachers ending the experience was 5.94, a significant difference. Likewise, for the pattern labelled "asks questions of students," the mean for cooperating teachers was 9 06, while student teachers achieved a mean of 15.86, a difference significant at the .01 level.

When elementary student teachers were studied separately from the total group, significant differences were found between the communication pattern

and that of the cooperating teacher. Elementary student teachers encouraged and praised significantly more than the cooperating teachers. In addition, there was significantly more silence and more going of directions in the cooperating teachers' class than in the student teachers' class.

Since various researchers (Amidon, 1965; Flanders, 1975; Westbury, 1971) have found that more learning occurs in a classroom where communication is "indirect" as opposed to "direct", interaction within the classroom was studied further by grouping types of interaction into direct and indirect communication. The following communication patterns were considered to be indirect forms of communication:

accepts student feelings	accepts ideas
encourages	asks questions

Types of communication placed in the category considered as direct were **tures**, directs, and criticizes.

Insert TABLE 3 about here

As shown in Table 3, comparisons of direct and indirect teaching were made by grouping participants in various manners. Time given to each category by each group was studied. Cooperating teachers spent more time than did any other group in direct communication. The elementary student teacher at the end of the experience spent less time than any other group on direct communication. The elementary student teacher at the end of the experience spent less time than any other group on direct communication. Both the home economics and the elementary education student teachers increased the amount of indirect communication used from the beginning to the end of the experience; however, the amount of change was slight. Table 4 shows means for direct and indirect communication for student teachers and cooperating teachers. Cooperating

teachers used a significantly greater amount of direct communication than did

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Insert TABLE 4 about here

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student teachers. Conversely, student teachers utilized significantly more indirect communication than did cooperating teachers.

Correlation coefficients were obtained for student teachers and cooperating teachers on each of the communication patterns at the conclusion of the experience; however, none of the scores were significant.

The lack of correlation between communication patterns of student teachers and cooperating teachers at the end of the experience showed that the second hypothesis of the study, i.e., there is a significant positive relationship between communication patterns of student teachers and cooperating teachers at the conclusion of the student teaching experience, was not supported by the data.

Discussion

The notion that a student teacher improves in the ability to create a climate in the classroom promoting more student interaction as s/he becomes more experienced was not supported by this study. There was, however, a strong indication that a teacher (even an inexperienced one, as in the case of a student teacher) who has had special training in conducting discussions within the classroom and in interaction analysis, creates a classroom atmosphere where there is significantly more student interaction than does the teacher who has not participated in such training. That finding was supported by the studies of Lohman (1971) who found that teachers with interaction analysis training conducted classes with more acceptance of student ideas, more encouragement for students, and more acceptance of student feelings. Similar results were reported by Zahn (1964).

Supporting the finding that student teachers who had had training in interaction analysis as a total group relied significantly more on indirect methods of teaching than did cooperating teachers are the studies of Furst (1971) and Kirk (1964). Such findings support the inclusion of interaction analysis as a part of methods classes.

The lack of positive correlation between the student teachers' communication patterns at the end of the experience and those of the cooperating teacher suggest that the cooperating teacher does not serve in the model role as much as educators have believed.

The high degree of indirect communication exhibited by student teachers who had had training in interaction analysis and in the discussion techniques, supported Amidon's belief that the major potential of interaction analysis and other systematic observational procedures is in the area of teacher education and supervision. The practices of the student teachers in this study substantiated Amidon's theory that research on teaching can be made meaningful to the individual teacher when s/he has a method for studying hers/his own teaching.

Summary and Recommendations

Data taken from observations of communication patterns in classes conducted by student teachers and by cooperating teachers indicated a significant difference in types of communication which occurred between student teachers who had had special training in interaction analysis and in discussion techniques, and in the teacher who had not had that training. Teachers who had had such training conducted classes with significantly higher levels of indirect communication than did teachers without that training. Since research (3,28,20,17) has shown that students learn better with an atmosphere of indirect communication, the findings are particularly relevant to teacher educators.

The study raised a strong question relative to the lack of modeling, or acceptance of the modeling role, by the cooperating teacher. Further study is recommended to investigate the finding.

Conclusions from the study included:

1. Teachers who have been trained in interaction analysis and have had intensive training in discussion techniques were able to control their verbal behavior in ways that were more congruent with a positive teaching-learning situation than teachers without the training.
2. The student teaching experience could be improved if professional teachers received in-service training in discussion techniques and interaction analysis.
3. Student teachers are not significantly affected by the cooperating teachers' methods of conducting classroom discussions.
4. Teacher education methods for elementary education and for the secondary education students studied, did not produce significantly different results.

The conclusions from the study served as a basis for the following recommendations:

1. Elementary and secondary student teachers should receive training in interaction analysis and in discussion techniques prior to the student teaching experience.
2. In-service training should be conducted to familiarize professional teachers with interaction analysis and discussion techniques.
3. Further study should be conducted to determine the specific teaching influence a cooperating teacher has on the teaching behavior of a student teacher.

TABLE 1

Mean of communication patterns for student teachers

at the beginning and ending of the experience

N=39

Communication pattern	Mean score beginning	Mean score ending
1. Accepts feelings	1.23	1.67
2. Encourages	6.61	7.71
3. Accepts ideas	4.56	4.46
4. Asks questions	19.25	21.12
5. Lectures	16.05	11.79
6. Directs	9.10	8.10
7. Criticizes	.46	.43
8. Student response	29.30	28.71
9. Student talk	5.6	5.0
10. Silence	4.6	4.4

TABLE 2

Means for communication patterns at end of experience for total group of student teachers and cooperating teachers

Communication pattern	Mean score student teacher	Mean score cooperating teacher
1. Accepts feelings	1.64	1.42
2. Encourages or praises	7.71	3.40**
3. Accepts ideas	4.46	2.62
4. Asks questions	21.12	15.68*
5. Lectures	11.79	19.85*
6. Directs	8.10	12.31
7. Criticizes	.43	1.45*
8. Student response	28.71	25.80
9. Student talk	5.00	6.17
10. Silence	4.43	7.34

*Significant at the .05 level

**Significant at the .01 level

TABLE 3

Percentage of time used in direct and indirect communication

	Groups	Direct	Indirect
1.	Beginning student teacher Home Economics	32.95	23.09
2.	Beginning student teacher Elementary Education	20.79	43.07
3.	Ending student teacher Home Economics	30.09	25.87
4.	Ending student teacher Elementary Education	16.21	44.84
5.	Cooperating teachers	35.00	24.08
6.	Total group, beginning	26.87	32.21
7.	Total group, ending	23.15	35.35

TABLE 4

Mean of direct and indirect communication patterns for all participants

	Student teachers		Cooperating Teachers	
	Mean	S. D.	Mean	S. D.
Direct	12.20	10.23	28.15	14.75**
Indirect	44.55	14.56	28.50	11.79**

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